

Remarks

Claims 17-31 are pending in the present application. Claims 17-31 are rejected.
Claim 1 is amended herein.

Rejections Pursuant to 35 U.S.C. §103(a)

In the Office Action, claims 17-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 6,848,104 to Van Ee et al. in view of U.S. Pat. No. 5,204,669 to Dorfe et al., U.S. Pat. No. 5,737,319 to Croslin et al., and U.S. Pat. No. 7,216,090 to LaCroix.

With respect to claims 17 and 20-22, it is asserted in support of the rejection that although Van Ee et al. do not disclose what is included in a triggered event, LaCroix expands on the teachings of Van Ee et al. by disclosing a triggered event includes the turning on and/or off of a device (col.14, lines 50-55). The Examiner concluded it would have been obvious to a person of ordinary skill in the art at the time of the invention to use an on/off power event as a trigger in Van Ee's invention since the change in power consumption would trigger the discovery subsystem to determine a new topology.

To establish a *prima facie* case of obviousness, *inter alia*, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Claim 1 is amended herein and recites, *inter alia*, "(c) interrupting a contact of a module to the central unit upon receiving a command from the central unit." Support for this amendment can be found, e.g., at para. [0029] – "[t]he central unit then gives a command to the module M_i to interrupt the contact beyond module M_i in the chain" – and, e.g., at para. [0044] of the present application – "[t]he central unit commands each of the modules in step (46) to interrupt the connection to their contacted module on their side facing away from the central unit –. No new matter has been added.

LaCroix is directed to routing promotion content files to groups of end node devices having the same or similar device attributes (e.g., data storage capacity) called transmission groups. The activation trigger event described at col. 14, lines 50-55 for delivery of a particular promotion (i.e., advertisement) to an end node device and the duration of the promotion can include, *inter alia*, a power event (e.g., OFF/ON). However unlike claim 17, as amended herein, the power event contemplated by LaCroix is likely triggered through an external user interface (e.g., an OFF/ON button) and not upon receiving a command from the system itself – a central unit. Also Van Ee et al. do not teach a method for determining the topology or spatial arrangement of modules, but instead only describe how a central unit can detect which modules are present.

In addition to the requirement that the prior art reference or references when combined must teach or suggest all the claim limitations in order to establish a *prima facie* case of obviousness, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. MPEP 2143.01 (citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)). The combination of Van Ee and LaCroix as proposed would not result in a useful system, as once the device was turned off there would be no way to turn it on again – there would be no way of restoring the interrupted contact. In accordance with the present application, the interruption is always enforced by a module that is still connected to the central unit, i.e., “(c) interrupting a contact of a module to the central unit upon receiving a command from the central unit.” Otherwise this principal would not function.

For all of the reasons above, applicants submit that LaCroix does not fulfill the deficiencies of Van Ee et al. Van Ee and LaCroix, either alone or in combination, do not teach or suggest a method for determining the topology of modules in a modular analytical system comprising, *inter alia*, interrupting a contact of a module to the central unit upon receiving a command from the central unit, transmitting the stored data of the modules to the central unit, restoring the interrupted contact, and comparing the data

that were transmitted before the contact was interrupted with the data that were transmitted after interruption of the contact and determining the topology of the modular analytical system on the basis of the comparison. Van Ee and/or LaCroix simply don't do this and therefore cannot be relied upon in support of the instant rejection.

Also in the Office Action, where Van Ee et al. do not teach contacting of daisy chained data storing modules, it is asserted Dorfe teaches the contacting data storing modules limitation absent of the teachings of Van Ee by disclosing at least one peripheral communicates with a programmable controller to receive an address assignment (contacting several modules which store data in a memory with a central unit) via daisy chained control lines 18 (col. 5, lines 15-20, 50-60 and Fig. 1). The Examiner concluded it would have been obvious to a person of ordinary skill in the art at the time of the invention to contact daisy chained data storing modules in Van Ee's invention to allow the discovery module to create an accurate topology by gathering information from all devices in an active environment. However dynamic address assignment addresses something far different than the present application, which in contrast assumes static addresses. Moreover Van Ee et al. do not address determining topology of a modular system, only the presence of modules, and Dorfe does not fulfil this deficiency.

The Examiner further argued that although Van Ee does not teach the transmittal of stored information to a central unit, Croslin teaches the transmittal of stored information absent from the teachings of Van Ee by disclosing network elements that report state information to an audit device (col. 8, lines 17-22), and that it would have been obvious to a person of ordinary skill in the art at the time of the invention to transmit device information to a central unit in Van Ee's invention as a way to notify a user of a fault in a particular device. In Croslin, ports are assigned an orientation, and matching or mismatching orientations of adjacent ports are used to compute topology (col. 5, lines 7-16). This is distinguished from the present application, wherein communication between modules is enabled and disabled in order to compute the

topology – *inter alia*, interrupting a contact of a module to the central unit upon receiving a command from the central unit, transmitting the stored data of the modules to the central unit, restoring the interrupted contact, and comparing the data that were transmitted before the contact was interrupted with the data that were transmitted after interruption of the contact and determining the topology of the modular analytical system on the basis of the comparison. Van Ee and Croslin do not disclose this subject matter and therefore cannot be relied upon in support of the instant rejection.

Also in the Office Action, claim 19 was rejected under 35 U.S.C. §103(a) as being unpatentable over Van Ee in view of Dorfe, Croslin, and LaCroix as applied to claim 17 above, and further in view of Koelzer (U.S. Pat. Appln. Pub. No. 2004/0012249). It is asserted that although the combination of Van Ee, Dorfe, Croslin and LaCroix do not disclose the use of a star topology, Koelzer teaches the star topology limitation absent from the teachings of Van Ee, Dorfe, Croslin and LaCroix by disclosing a Controller Area Network (CAN) arranged in a star topology, and it would have been obvious to a person of ordinary skill in the art at the time of the invention to use a star topology in Van Ee's invention since a single device is used to collect network information. In addition, claims 23-24 were rejected under §103(a) as being unpatentable over Van Ee in view of Dorfe, Croslin, and LaCroix as applied to claim 17 above, and further in view of Kodosky et al. (U.S. Pat. No. 7,062,718). It is asserted that although Van Ee does not teach the topology is displayed graphically, Kodosky teaches the graphical display of topological information absent from the teachings of Van Ee by disclosing a hierarchical system view [Fig. 16] with device and program icons accessed by a user allowing the user to configure and/or manage distributed systems [abstract]. The Examiner concluded that it would have been obvious to a person of ordinary skill in the art at the time of the invention to use a star topological graphical display in Van Ee's invention to allow a user to make sure any changes needed to be made are being made to the correct device.

Claims 18-24 each depend from independent claim 17 and, therefore, contain all of the limitations of that claim. None of the references cited in combination with Van Ee disclose that subject matter. Applicants respectfully submit that, in view of the present amendment, a *prima facie* case of obviousness has not been established and request that the rejection be withdrawn.

Also in the Office Action, claims 25 and 28-31 were rejected under 35 U.S.C. §103(a) as being unpatentable over Dorfe in view of Van Ee. Although Dorfe does not teach the calculation of topology information, it is asserted that Van Ee teaches the topology calculation absent the teachings of Dorfe by disclosing environmental devices in an active environment can also become "not discovered" (col. 18, lines 58-63), and it would have been obvious to a person of ordinary skill in the art at the time of the invention to calculate topology information in Dorfe's invention to determine if a node had faulted. Claims 26 and 27 are also rejected under §103(a) as being unpatentable over Dorfe in view of Van Ee as applied to claim 25 above, and further in view of Koelzer and Kodosky, respectively.

As noted above, in order to establish a *prima facie* case of obviousness the prior art reference (or references when combined) must teach or suggest all the claim limitations. Claim 25 is directed to a modular analytical system comprising, *inter alia*, a computing unit to calculate the topology of the analytical system on the basis of a comparison of data that were registered before interrupting a contact between the central unit and a module with data that were registered after interruption of the contact. While Van Ee may describe a discovery function which will lead the display function to show, display, or present the environmental device or not to do so, there is no reference in Van Ee of any method or algorithm as to how to derive a topology or spatial order from that. Van Ee does not fulfill the deficiencies of Dorfe. Moreover Dorfe foresees a control line and a signal comprised of pulses, where the module F[N] modify the number of these pulses when promoting the signal. This restricts the protocol or system to (a)

systems with such a control line and, (b) methods of modifying the number of pulses in the signal.

Dorfe, either alone or in combination with Van Ee, does not disclose all of the limitations of claim 25. Because claims 26-31 each depend from and contain all of the limitations of independent claim 25, Dorfe cannot be relied on in support of the present rejection. Applicants respectfully submit that a *prima facie* case of obviousness has not been established and request that the rejection be withdrawn.

Serial No. 10/527,138
Docket No. 21387 US-pd/d

Conclusion

Applicants have filed a complete response to the outstanding Office Action and respectfully submit that, in view of the above amendments and remarks, the application is in condition for allowance. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,
ROCHE DIAGNOSTICS OPERATIONS, INC.

By /Brian L. Smiler/

Brian L. Smiler
Registration No. 46,458

9115 Hague Rd.
Indianapolis, IN 46250-0416
Telephone: (317) 521-3295
Facsimile: (317) 521-2883
E-mail: brian.smiler@roche.com

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